

Storage Troubleshooting Facts

As a PC Technician, you will encounter a wide spectrum of problems with computer components. In general, it is best to always check the manufacturer's site first for troubleshooting help. If you are encountering a problem, there is a good chance that someone else has encountered that same problem before and the solution has been posted in a FAQ. Use the following outlines for troubleshooting additional problems:

Device	Troubleshooting
IDE Storage Devices	Important things to remember when working with IDE devices are: - Loose connections are the most common reason why an IDE storage device isn't working properly. If you have a connector that has lost its ability to stay intact, you may consider using a small dot of glue on the outside of it to secure it in place. - Two different types of ribbon cables have been used in IDE storage devices over the years: EIDE devices use a 40-wire cable with a 40-pin connector, and PATA devices use a 80-wire cable with a 40-pin connector. Using the wrong ribbon cable can lead to device malfunction. - Incorrectly configured master/slave relationships will cause an IDE storage device to not work properly. Make sure that if you have two devices attached to an IDE port, one is set as master and the other is set to slave. - If the CMOS setup program detects the incorrect amount of cylinders, heads, and sectors per track when a device is plugged into an IDE channel, the device may not work properly. This usually happens because the BIOS is out of date. This can be fixed in one of two ways: - Manually set the parameters in the BIOS. - Download the latest updates for your BIOS so it will have the ability to correctly detect device parameters.
SCSI Devices	Hard disk drives, tape storage devices, printers, CD-ROM drives, and DVD-ROM drives can all be SCSI devices. Remember the following when troubleshooting SCSI devices: - Every device attached to a SCSI card must have a unique ID assigned to it. If a device with a non-unique device is attached, it will either cause a prompt that says "A non-unique device has been attached" to be displayed, or the device will simply not register until a unique ID has been assigned to it. - Each device attached to a SCSI card is assigned a priority, zero being the highest. If your drives aren't in an optimal priority setting, you may experience slower performance. It is recommended having adapters at lowest priority, CD-ROM and DVD-ROM drives in mid-range priority, and hard disk drives at highest priority. - Both ends of a SCSI adapter chain must have termination enabled, with no terminations between the beginning and the end. Cards that do not have the ability to auto-detect termination status usually have termination enabled by default. If this is the case, you must manually disable termination to make the chain complete. Termination can be enabled or disabled by placing or removing a shunt on the term power jumper that is located on the back of most devices.
Optical Storage Devices	Optical storage devices are devices that use fiber optics to store and read data such as CD ROMs and DVD ROMS. Remember the following when troubleshooting optical storage devices: - Verify that all cables are properly connected first. - The most problematic element of optical CDs and DVDs is a high vulnerability to scratches. If a DVD or CD is scratched, it can cause data to not transmit properly. Minor scratches can be fixed by applying a CD/DVD repair solution to the disc. - Make sure you are always using the appropriate media for the type of drive you're working with. For example: - DVDs probably may not work in CD-ROM drives. - CD-RW discs may not work in CD-R drives. - DVD-R drives may not be compatible with DVD+R DVDs.